

Agent's reference: 05-479-C

IN THE UNITED STATES RECEIVING OFFICE (RO/US)

In re Application of:)	
)	
Eui Rim Jeong)	Group Art Unit: TBA
)	
Serial No.: 10/567,538)	Examiner: TBA
)	
Filed: February 7, 2006)	
)	
For: Apparatus and Method for Digitally)	
Implementing a Wideband Multicarrier)	

TRANSMITTAL LETTER

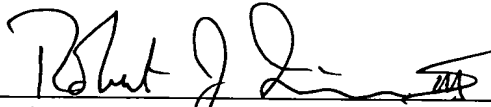
Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sirs:

In regard to the above-identified application we are transmitting herewith the attached:

- 1) International Preliminary Report on Patentability;
- 2) **CERTIFICATE OF MAILING BY "EXPRESS MAIL" UNDER 37 CFR § 1.10:** The undersigned hereby certifies that this Transmittal Letter and the paper, as described hereinabove, are being deposited with the United States Postal Service with sufficient postage as "Express Mail Post Office to Addressee" in an envelope addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia, 22313-1450, on this 24th day of May, 2006, Express Mail No. **EV839411499US**.

Respectfully submitted,

By 
Robert J. Irvine III
Registration No. 41,865
Attorney for the Applicant(s)

From the INTERNATIONAL BUREAU

PCTNOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)

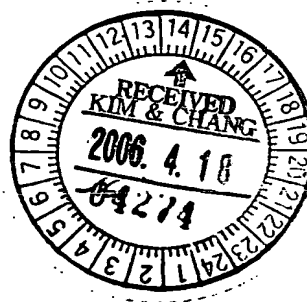
(PCT Rule 44bis.1(c))

To:

YOON, Jee Hong
Hannuri Bldg. 219 Naeja-dong, Chongno-gu
Seoul 110-053
RÉPUBLIQUE DE CORÉE

Date of mailing (<i>day/month/year</i>) 06 April 2006 (06.04.2006)		IMPORTANT NOTICE	
Applicant's or agent's file reference FE241509			
International application No. PCT/KR2004/002467	International filing date (<i>day/month/year</i>) 24 September 2004 (24.09.2004)	Priority date (<i>day/month/year</i>) 26 September 2003 (26.09.2003)	
Applicant UTSTARCOM KOREA LIMITED et al			

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)



The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Philippe Becamel
Facsimile No.+41 22 740 14 35	Facsimile No.+41 22 338 70 90

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FE241509	FOR FURTHER ACTION		See item 4 below
International application No. PCT/KR2004/002467	International filing date (<i>day/month/year</i>) 24 September 2004 (24.09.2004)	Priority date (<i>day/month/year</i>) 26 September 2003 (26.09.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant UTSTARCOM KOREA LIMITED			

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 4 sheets, including this cover sheet.																								
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																									
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td style="width: 70%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 740 14 35</p>	<p>Date of issuance of this report 27 March 2006 (27.03.2006)</p> <p>Authorized officer Philippe Becamel</p> <p>Telephone No. +41 22 338 70 90</p>
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 11 JAN 2005

PCT

WFO

PCT

To:

YOON, Jee Hong

Hannuri Bldg. 219 Naeja-dong, Chongno-gu, Seoul 110-053
Republic of Korea

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 04 JANUARY 2005 (04.01.2005)

Applicant's or agent's file reference
FE241509

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/002467

International filing date (day/month/year)

24 SEPTEMBER 2004 (24.09.2004)

Priority date(day/month/year)

26 SEPTEMBER 2003 (26.09.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H04L 27/26

Applicant

UTStarcom Korea Limited et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

UHM, In Kwon

Telephone No. 82-42-481-5712



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/002467

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/002467

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims	1-9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents:

D1 = JP 2002280988 A

Novelty

the two inventions are different in that D1 doesn't teach that the inputted signals are twice mixed, digitally mixed and quadrature-mixed again. Therefore, the invention according to claims 1-9 is considered to be novel.

inventive step

The invention according to claims 1-9 relates to an apparatus and a method for digitally implementing a wideband multicarrier.

D1 discloses a method and a device for receiving both single carrier and multicarrier with high cost performance.

As compared with D1, there is a similarity between the present invention and the device in D1 in that multicarrier modulation with high cost performance is implemented.

On the other hand, the invention is different from D1 in that the inputted signals are mixed twice, digitally mixed and quadrature-mixed again.

Therefore, claims 1-9 of this invention lack an inventive step under Article 33(3) as being obvious over D1.

Industrial Applicability

The subject matter of claims 1-9 fulfills the requirements of Article 33(4) PCT because it is useful.